

What is claimed is:

1 1. In data processing apparatus wherein information in processing is arranged with the data having an  
2 address portion and a to be stored portion,  
3 the improvement comprising:  
4 said processing including a selective capability of directing information in said address portion  
5 in a separate processing path without disturbing information in said to be stored portion.

1 2. The improvement of claim 1 wherein said processing includes:  
2 a separate path in said apparatus for said information address portion,  
3 said separate path passing around addressable storage locations for said to be stored information  
4 portion, and,  
5 implementation means adapted to direct said information address portion to said separate path.

1 3. The improvement of claim 2 further including in said processing, a further processing capability  
2 said further processing capability being responsive to data arriving at said addressable storage  
3 locations through said separate path.

1 4. The improvement of claim 3 wherein said separate path for said information address portion includes  
2 address includes address register means for correlation with memory locations in a memory assembly  
3 through a serializer with an output buffer, and, said further processing capability including  
4 timing register through serializer and output buffer means.

1 5. The improvement of claim 2 wherein said implemtation means operates to disable entry of said to be  
2 stored information portion into said memory assembly.

- 1 6. In a data processing memory assembly of the type having an input port, an output port, and containing  
2 information stored in a plurality of addressable storage locations,  
3 said memory assembly being responsive in processing to data having an address  
4 information portion and a to be stored portion,  
5 the improvement comprising  
6 said processing including a selective capability of directing said address information portion  
7 of said data appearing in a data path to said plurality of addressable storage locations in a separate  
8 processing path without disturbing said information stored in said plurality of  
9 addressable storage locations.
- 10 7. The improvement of claim 6 wherein said selective capability includes  
11 a separate address information path around said addressable storage locations to said output port, and,  
12 a processing instruction implementing the directing of said address information portion of said data to said  
13 separate path.
- 14 8. The improvement of claim 7 including a data processing capability responsive to data through said  
15 separate path delivered to said output port.
- 16 9. The improvement of claim 8 wherein said separate address information path is from an address register  
17 in said memory assembly through a serializer to an output buffer in said memory assembly, and said  
18 processing instruction is from a timing register through a serializer to said output buffer in said memory  
19 assembly.
- 20 10. The improvement of claim 7 wherein said processing instruction disables entry of to be stored

2 information into said plurality of addressable storage locations.

1 11. The improvement of claim 7 wherein said processing instruction employs an unused condition on a  
2 terminal in a standard storage event in combination with a burst stop command in said memory assembly.

1 12. In an addressable random access memory of the type having a plurality of storage locations, being  
2 responsive in processing to data increments having an address portion and a to be stored portion, and having  
3 a register for direction of specific data increments to specific ones of said plurality of storage locations,  
4 the method of verifying that the location in said plurality of storage locations to which a specific increment  
5 of said data increments was directed is the location in which it resides,  
6 comprising the steps of:

7 directing said address information portion of said data, appearing in a data path to said plurality of  
8 addressable storage locations, through a separate path around said plurality of  
9 addressable storage locations, to an output location,  
10 providing at said output location access in said register to the assigned location in which each data  
11 increment was to be stored, and,  
12 comparing the data in said separate path with said register for a difference of storage location.

1 13. The method of claim 12 wherein said separate path is a path between an address register element and  
2 said output buffer element.

1 14. The method of claim 13 wherein said register for direction of specific data increments to specific ones  
2 of said plurality of storage locations is a mode register element, and said output location is an output buffer  
3 element.

1 15. The method of claim 14 wherein a copy of the entries in said mode register element is stored in separate  
2 computation apparatus connected to said output buffer element.

1 16. In an addressable random access memory of the type having a plurality of storage locations, being  
2 responsive in processing to data increments having an address portion and a to be stored portion, and having  
3 a register for direction of specific data increments to specific ones of said plurality of storage locations,  
4 the method of tuning the timing of said random access memory assembly for optimization of said address  
5 portion of a data increment and the clock function of said memory,  
6 comprising the steps of:

7 directing said address information portion of said data, appearing in a data path to said plurality of  
8 addressable storage locations, through a separate path around said plurality of  
9 addressable storage locations, to an output location,  
10 providing at said output location separately stored increments said clock function and separately stored  
11 address portions of said data, and,  
12 comparing the data in said separately stored address portions of said data with a corresponding pulse  
13 from said clock function and identifying events where said clock function pulse occurred other than  
14 during said address portion of said data path with said register for a difference of storage location.

1 17. The method of claim 16 including the step of adjusting the output of said clock function to position  
2 said corresponding pulse to the center of the duration of said address portion of said data.

1 18. In an addressable random access memory assembly,  
2 said assembly having an input port and an output port,  
3 said assembly having a plurality of drivers, driving, through a common communication channel

4 data path, data array banks arranged in columns and rows,  
5 the improvement comprising:  
6 means providing separate read and write cycles, and,  
7 means ,taking place during a said read cycle, for redirection of address data, from a said data path  
8 to said data array banks, to a data path to at least said output port.

1 19.The improvement of claim 18 wherein during said read cycle said address data is received through  
2 a column decoder.

20. The improvement of claim 19 wherein during said read cycle said address data is held until the  
beginning of the address.

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